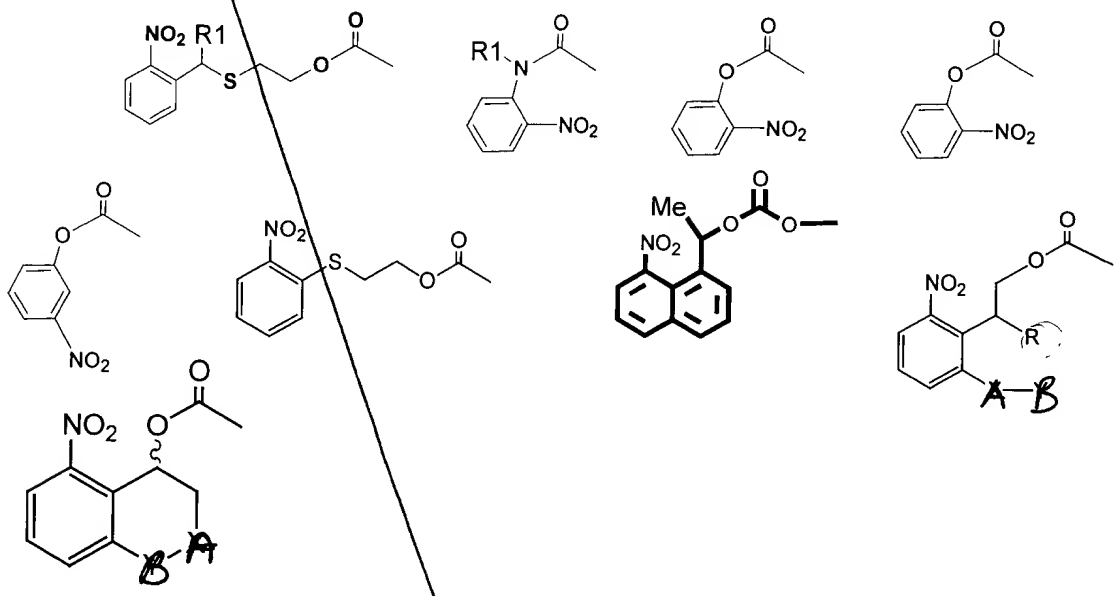
WHAT IS CLAIMED IS:

1. A compound of the group consisting essentially of the structures shown below, designated as "Y":



wherein A is O, S, N-alkyl, N-aryl, CH2)n, where n=0-about 3 and B is an aprotic weakly basic group.

2. The compound of Claim 1, further comprising a chemical fragment selected from the group consisting of an amino acid, a peptide, nucleoside, nucloetide, polynucleotide or analogs thereof, a monosaccharide and a protein.

3. The compound of Claim 2 wherein the compound comprises a base-protected deoxynucleoside, wherein the deoxynucleoside is a deoxyadenosine, a deoxycytidine, a thymidine or a deoxyguanosine.

4. The compound of Claim 3, wherein the compound is selected from the group consisting of base protected deoxynucleoside H-phosphonates and base protected deoxynucleoside phosphoramidites.

5. A method of attaching a molecule with a reactive site to a support comprising the steps of:

(a) providing a support with a reactive site;

(b) binding a molecule to the reactive site, said first molecule comprising a masked reactive site attached to a photolabile protecting group of the formula Y-C(O)-, wherein Y is a chemical group as claimed in claim 1;

SUB A4 cont

(c) removing the photolabile protecting group to provide a derivatized support comprising the molecule with an unmasked reactive site immobilized thereon.

6. The method of Claim 5, wherein the binding step in (b) is covalent.

7. The method of Claim 5, further comprising:

(a) coupling a second molecule to the unmasked reactive site, which second molecule comprises a second masked reactive site attached to the photolabile protecting group to produce a derivatized support having immobilized thereon a chain of the first and second molecules; and

SUB A5

(b) removing the photolabile protecting group to provide a derivatized support with a chain of the first and second molecules with a second unmasked reactive site immobilized thereon.

8. The method of Claim 5, further comprising repeating steps (a) and (b) of Claim 10 with a succession of molecules to provide a chain of molecules immobilized on the support.

9. The method of Claim 5, wherein the molecules are deoxynucleosides.

10. The method of Claim 5, wherein the support is a glass or silica substrate.

SUB A6

11. The method of Claim 9, wherein the deoxynucleosides are linked to the photolabile group via a 5'-OH.

12. The method of Claim 7, wherein the photolabile group is removed by irradiation at a wavelength of greater than 350 nm.

13. The method of Claim 12, wherein the wavelength is about 365 nm.

14. A method of forming, from component molecules, a plurality of compounds on a support, each compound occupying a separate predefined region of the support, said method comprising the steps of:

SUB A7

(a) activating a region of the support;

(b) binding a molecule to the first region, said molecule comprising a masked reactive site linked to a photolabile protecting group of the formula Y-C(O)-, wherein Y is a chemical compound of the structure shown in claim 1;

(c) repeating steps (a) and (b) on other regions of the support whereby each of said other regions has bound thereto another molecule comprising a masked reactive site linked to the photolabile protecting group, wherein said another molecules may be the same or different from that used in step (b);

(d) removing the photolabile protecting group from one of the molecules bound to one of the regions of the support to provide a region bearing a molecule with an unmasked reactive site;

(e) binding an additional molecule to the molecule with an unmasked reactive site;

(f) repeating steps (d) and (e) on regions of the support until a desired plurality of compounds is formed from the component molecules, each compound occupying separate regions of the support.

15. The method of Claim 14, wherein the binding steps are covalent.

16. The method of Claim 14, wherein the molecules are deoxynucleosides.

17. The method of Claim 14, wherein the support is a glass or silica substrate.

18. The method of Claim 16, wherein the deoxynucleosides are linked to the photolabile group via a 5'-OH or the 3'-OH.

19. The method of Claim 14, wherein the photolabile group is removed by irradiation at a wavelength of greater than 350 nm.

20. The method of Claim 19, wherein the wavelength is about 365 nm.

21. The method of Claim 14, wherein at least 10^6 chains are immobilized on the support.

22. The method of Claim 14, wherein each of the regions has an area of between about 1 μm^2 and 10,000 μm^2.

23. The method of Claim 14, further comprising:

(a) covalently binding a second molecule comprising a masked reactive site linked to a chemically labile protecting group to a reactive site, wherein the reactive site is either on an activated region of the support as formed in step (a) of Claim 19 or is an unmasked reactive site on a molecule on the support as formed in step (d) of Claim 19;

(b) replacing the chemically labile protecting group with the photolabile protecting group to provide a region of the support having a molecule with the photolabile protecting group; and

(c) repeating steps (d) - (f) of Claim 19 as desired.

24. A compound as recited in claim 1 wherein the compound Y is Me2NPOC; Me3NPOC; NP2NPOC; NA1BOC; 5'-TEMPOC and NINOC.

25. A compound as recited in claim 4 wherein the compound Y is Me2NPOC-T-CEP; Me3NPOC-T-CEP; NP2NPOC-T-CEP; NA1BOC-T-CEP; 5'-TEMPOC-T-Phosporamidite, and NINOC-T-CEP.

26. A method in accordance with claim 9 wherein the compound Y is Me2NPOC; Me3NPOC; NP2NPOC; NA1BOC; 5'-TEMPOC, and NINOC.

27.A method in accordance with claim 9 wherein the compound Y is Me2NPOC-T-CEP; Me3NPOC-T-CEP; NP2NPOC-T-CEP; NA1BOC-T-CEP; 5'-TEMPOC-T-Phosporamidite.

28. A method in accordance with claim 14 wherein the compound Y is Me2NPOC; Me3NPOC; NP2NPOC; NA1BOC; 5'-TEMPOC, and NINOC.

29. .A method in accordance with claim 16 wherein the compound Y is Me2NPOC-T-CEP; Me3NPOC-T-CEP; NP2NPOC-T-CEP; NA1BOC-T-CEP; 5'-TEMPOC-T-Phosporamidite and NINOC-T-CEP.

ADD A12